

# Personality and the Goal-Striving Process: The Influence of Achievement Goal Patterns, Goal Level, and Mental Focus on Performance and Enjoyment

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The purpose of this study is to examine the mechanisms by which personality traits influence performance and satisfaction. Specifically, the authors examined how 3 personality characteristics derived from self-determination theory (autonomy, control, and amotivated orientations) influence performance and enjoyment through achievement goal patterns, goal level, and mental focus. Data were collected from 284 students at 5 points in time. In particular, mental focus emerged as an important aspect of the self-regulation process. The results suggest that global personality traits can help researchers to understand and predict the motivational strategies that people use while working toward goals in achievement settings.

Recent research has indicated a consistent link between personality and various outcomes such as performance (Barrick & Mount, 1991; Judge & Bono, 2001; Tokar, Fischer, & Subich, 1998), career success (Judge, Higgins, Thoresen, & Barrick, 1999; Seibert, Crant, & Kraimer, 1999) and job satisfaction (Judge, Locke, Durham, & Kluger, 1998). However, less is known about the processes by which personality influences these outcomes. Management scholars have identified a need to examine personality variables in terms of the motivational and self-regulation processes that explain their relationships to outcome variables (Kanfer, 1990; Kanfer & Heggestad, 1997; Mount & Barrick, 1995; Tokar et al., 1998). Such studies should contribute to theory development, as well as highlight additional possibilities for developing individuals' potential in work and educational settings. As we develop a greater understanding of the motivational processes associated with personality characteristics, leaders may be able to target these aspects of self-regulation for change efforts.

The goal-striving process may be a particularly useful aspect of self-regulation to study in terms of personality influences. Goal striving refers to the ways in which people manage their thoughts and actions while working toward an outcome (Diefendorff, Hall, Lord, & Streat, 2000; Gollwitzer & Brandstätter, 1997). Such self-regulation efforts are continually required in the workplace, as employees attempt to accomplish various goals and assignments. For instance, in a field study of salespeople, VandeWalle, Brown, Cron, and Slocum (1999) found that a learning goal orientation (but not a performance goal orientation) predicted an emphasis on skill building, which in turn predicted greater sales performance.

We extend their study by examining antecedents of goal orientation patterns, the impact of goal orientation on additional outcomes, and the potential value of a three-dimensional concept of performance orientation. More specifically, we delineate how global personality characteristics influence performance and enjoyment of work through their impact on achievement goal (or goal orientation) patterns, self-selected goal level, and mental focus.

Self-regulation scholars have recommended that such process models be hierarchically organized and reflect how distal dispositional traits influence outcomes through progressively more proximal processes (Chen, Whiteman, Gully, & Kilcullen, 2000; Kanfer & Heggestad, 1997; Vallerand, 2000; VandeWalle et al., 1999). For example, Vallerand (2000) argued that three levels of abstraction, and the relationships among variables within them, predict outcomes: the global level, pertaining to personality traits; a contextual level, consisting of specific life domains such as work, family, and recreation; and a situational level that reflects responses to a specific situation. Similarly, Elliot and Church (1997) argued that achievement goals mediate the effects of global motivational dispositions on specific behavioral outcomes. Building on these perspectives, our model is hierarchically organized to reflect global, domain-specific, and situational aspects of the goal-striving process.

We integrate self-determination theory and goal orientation theory to form the foundation of our framework. Self-determination theory examines the role of autonomy in motivational processes, proposing that individuals are motivated when their self-determined behavior feels freely chosen and reflects personal values (Deci & Ryan, 1990; Ryan & Deci, 2000). Three personality characteristics—the autonomy, control, and amotivated<sup>1</sup> orientations—are theorized to affect motivation by influencing the extent to which individuals perceive goals as freely chosen. Goal orientation theory extends our understanding of these three per-

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<sup>1</sup> We refer to this as the *amotivated* orientation for the sake of clarity, as this term captures the essence of the trait. However, in their works, the authors of self-determination theory label this personality characteristic the *impersonal orientation*.

sonality characteristics by describing the achievement goal pattern (i.e., goal orientation) that will be related to each personality characteristic. These achievement goal patterns, in turn, influence how individuals set and strive toward goals.

We now turn to an explanation of our proposed model (see Figure 1) by describing the autonomy, control and amotivated orientations. Next, we consider how achievement goals, the domain-specific patterns of achievement striving, may be influenced by these global personality characteristics. Finally, we address the role of the two situation-specific factors, goal level and mental focus, in predicting enjoyment and performance.

### Personality Characteristics

Although the five-factor model has provided a helpful basis for furthering systematic study of individual differences, some researchers suggest that not all traits are captured by it (Paunonen & Ashton, 2001). For instance, Kanfer and Heggestad (1997) argued that the five-factor model is not the best model to use in examining motivational processes, because the factors are relatively broad and thus encompass far more than motivational processes. Because self-determination theory specifically examines motivational processes, it seems particularly useful for examining the role of personality traits. Thus, we chose to examine the following three personality characteristics taken from self-determination theory (Deci & Ryan, 1990; Ryan & Deci, 2000): the autonomy orientation, control orientation, and amotivated orientation. These three personality variables are theorized to represent traits relevant to self-determined, autonomous behavior (Deci & Ryan, 1985b; Deci & Ryan, 1990; Williams & Deci, 1996). More broadly, these personality traits influence perceptions of oneself and one's environment across a variety of life domains; as such, these traits are

the starting point for considering how people regulate themselves while striving toward goals.

The *autonomy orientation* refers to a disposition to attend to environmental cues that signal personal interest and options for free choice of behavior. When motivated by this orientation, people's choices are made on the basis of internal needs and preferences. This orientation is positively related to self-esteem, self-awareness, an internal locus of control, and is negatively related to experienced boredom during work (Deci & Ryan, 1985a, 1985b; Koestner & Zuckerman, 1994). This orientation is also related to having greater cognitive efficiency, feeling more competent, and feelings of enjoyment among high school students doing schoolwork (Wong, 2000).

The *control orientation* is associated with an awareness of information pertaining to constraints, such as expectations of authority figures or societal standards. Individuals with a higher control orientation, who tend to see their behaviors as constrained or controlled by others, are more likely to have extrinsic motivation for work rather than experience intrinsic motivation or enjoyment (Deci & Ryan, 1985a, 1985b; Koestner & Zuckerman, 1994). Further, the control orientation is negatively related to academic performance and commitment (Wong, 2000).

The *amotivated orientation* involves sensitivity to signals that one is incompetent and likely to be unsuccessful at a given activity. This orientation is related to low self-esteem, a tendency to derogate oneself, depression, an external locus of control, and perceiving oneself as ineffective in achievement settings (Deci & Ryan, 1985a, 1985b; Koestner & Zuckerman, 1994). Furthermore, individuals with a high amotivated orientation tend to feel less capable of controlling external conditions and events, and internal conditions such as one's emotional state.

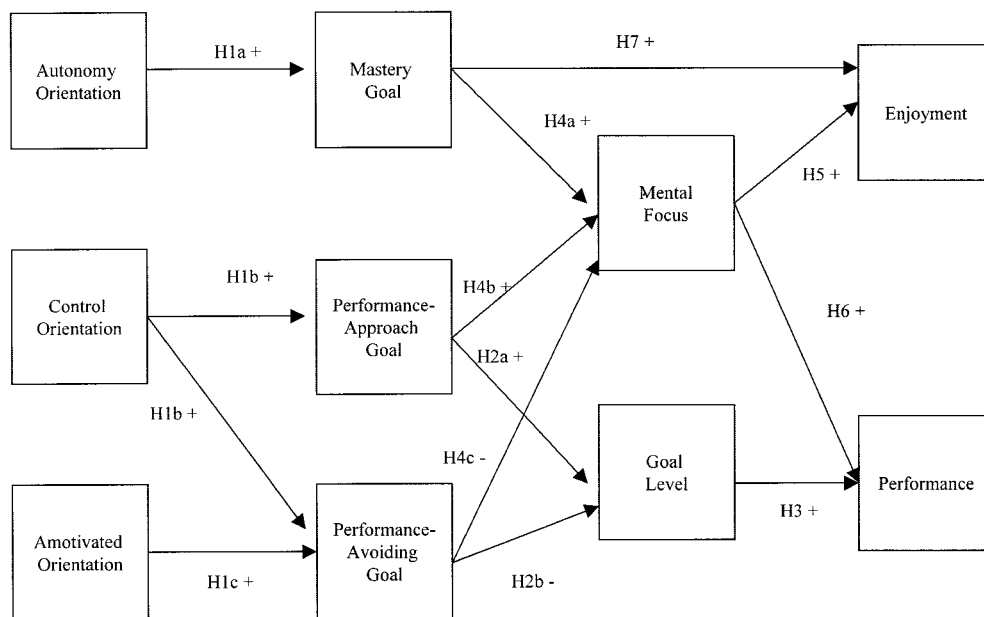


Figure 1. Proposed model of personality characteristics, achievement goals, mental focus, and work outcomes. H8 covers the indirect relationships throughout the model.

Self-determination theory indicates that these three orientations, which are relatively stable personality characteristics, are essentially independent and that people draw upon all three in their life. However, the overall strength of each of the orientations varies among people (Deci & Ryan, 1985a, 1985b, 1990). We extend research examining the impact of these personality traits by theorizing that these orientations affect the way individuals approach achievement goals. In the next section, we explain how this influence occurs in more detail.

### Achievement Goal Patterns

Achievement goal patterns, sometimes referred to as goal orientation, refers to how individuals perceive and respond to achievement situations (Dweck & Leggett, 1988). Achievement goals have been linked to various outcomes such as performance (Dweck & Leggett, 1988; Elliot & Church, 1997), intrinsic motivation (Elliot & Harackiewicz, 1996), response to feedback (VandeWalle, Cron, & Slocum, 2001), and sales performance (VandeWalle et al., 1999). Our model incorporates a three-dimensional conceptualization of achievement goal patterns (Elliot & Harackiewicz, 1996; VandeWalle, 1997), which includes the mastery pattern, the performance-approach pattern, and the performance-avoiding pattern.<sup>2</sup>

Mastery goals refer to a focus on skill development and task mastery and an attempt to meet personal standards of accomplishment. By contrast, both of the performance-oriented patterns involve a focus on obtaining favorable evaluations from others. The performance-approach pattern is oriented toward displaying competence and earning a favorable judgment. The performance-avoiding pattern involves an attempt to avoid failure. According to Elliot and Church (1997), both the performance-approach and mastery goals involve "approach" forms of self-regulation, in that these goals lead to positive emotions and absorption in the given task. By contrast, the performance-avoiding goal is a negative form of self-regulation, in that it prompts efforts to escape potential failure consequences and is often associated with considerable anxiety.

We theorize that the global personality traits outlined by self-determination theory will predict these domain-specific achievement goal patterns. For instance, individuals with a strong autonomy orientation, who tend to perceive opportunities for making free choice and make decisions on the basis of internal needs and preferences, should be more likely to adopt mastery goals, which involve satisfying internal standards of competence and skill. In addition, the general sense of being able to effectively control outcomes that is associated with the autonomy orientation should be related to an individual feeling competent to master a specific achievement task, and to view such tasks as challenges rather than threats, making a person more likely to adopt a mastery goal pattern in a specific situation.

The control orientation, which involves a strong awareness of socially defined standards and authority figures' expectations, is likely to translate into a tendency to see achievement situations as a time to perform for others. Furthermore, the focus on earning extrinsic rewards (as opposed to intrinsic enjoyment) seen with the control orientation should make individuals likely to focus outward and attempt to impress others in an achievement situation. Since it is other people who are typically in a position to grant

extrinsic rewards (such as bonuses, grades, public recognition) those with the control orientation will be focused on those who are evaluating them. This attempt to satisfy others is likely to prompt two types of responses: the energizing attempt to display competence associated with the performance-approach pattern, as well as the fear of failure and avoidance strategies associated with the performance-avoiding pattern.

The amotivated orientation involves low self-esteem, a tendency to be self-critical, and sensitivity to cues that one is unsuccessful. This general outlook is likely to translate into negative expectations about how one will perform in a specific achievement situation, prompting the worry and anxiety about potential failure seen with the performance-avoiding goal pattern. The amotivated orientation also involves a sense of helplessness and depressed mood, which is associated with the belief that one cannot control outcomes. In an achievement situation, this sense of futility is likely to prompt counterproductive behaviors such as procrastination and becoming distracted during engagement with the activity.

Although they measured achievement goals using a two-dimensional conceptualization, Koestner and Zuckerman (1994) provide some initial evidence for the relationships described above. Therefore, we hypothesized that

*Hypothesis 1a:* The autonomy orientation is positively related to mastery goals.

*Hypothesis 1b:* The control orientation is positively related to performance-approach goals and to performance-avoiding goals.

*Hypothesis 1c:* The amotivated orientation is positively related to performance-avoiding goals.

### Goal Level

Achievement goals represent a person's approach to pursuing a goal; that is, the self-regulation process one adopts while pursuing an achievement task. Goal content is also an important determinant of outcomes; difficult goals lead to better performance, if goals are accepted (Latham & Locke, 1991). Thus, we expected goal level to be positively related to performance in this study. Furthermore, achievement goals, which involve domain-specific self-regulation patterns, should influence the situation-specific goal level adopted.

We expect the performance-oriented patterns—performance-approach and performance-avoiding goals—to predict self-selected goal level. The performance-approach pattern involves striving for public approval by demonstrating one's competence. In pursuing this pattern, people are focused on doing well and on displaying their abilities—emphases that require self-confidence. Those with this self-confidence should be more likely to set difficult goals for themselves, believing that they can achieve them. However, the performance-avoiding goal pattern, which is also focused on the evaluation of others, brings about worry and

<sup>2</sup> These are the terms used by Elliot and Harackiewicz (1996). The terms presented by VandeWalle (1997) are learning goals, proving goals, and avoiding goals. The concepts described by both sets of authors are very similar, and we chose to use Elliot and Harackiewicz's terms in this article for the sake of conceptual consistency with our measures.

anxiety as the person tries to avoid looking bad, suggesting a lack of confidence in one's ability to perform well. Easier goals should be more appealing to people with the performance-avoiding goal pattern, as they are likely to believe that they will avoid failure when pursuing them.

Evidence is mixed regarding the relationship between the mastery pattern and goal level, with some authors finding a relationship between the two (Chen et al., 2000; VandeWalle et al., 1999; VandeWalle et al., 2001) and others finding no relationship (McGregor & Elliot, in press; Steele-Johnson, Beauregard, Hoover, & Schmidt, 2000). The mastery pattern involves challenging oneself for the sake of skill development and self-improvement, and achieving personal standards of success (Chen et al., 2000). These personal standards may or may not coincide with normative standards used to judge performance outcomes, such as grades, sales volume, or rating level on a performance evaluation form. In this study, we did not predict a relationship between the mastery goal pattern and goal level, as we believe that the normative goals measured in this context (i.e., grade in course) do not reflect personal standards of success resulting from the mastery goal pattern.

In sum,

*Hypothesis 2a:* Performance-approach goals are positively related to goal level.

*Hypothesis 2b:* Performance-avoiding goals are negatively related to goal level.

*Hypothesis 3:* Goal level is positively related to performance.

Achievement goals should also predict mental focus, as we describe next.

### Mental Focus

Mental focus refers to the degree to which someone is able to concentrate and become absorbed in an activity. The self-regulation patterns associated with achievement goals should influence an individual's mental focus. As was mentioned earlier, mastery and performance-approach goal patterns are both "approach" forms of self-regulation, in that both patterns involve trying to gain something positive—increased skill (mastery goals) or a display of competence (performance-approach goals; Elliot & Church, 1997). This focus on the positive brings with it emotions such as enthusiasm and optimism, which should facilitate interest and absorption in the achievement task (Elliot & Harackiewicz, 1996). By contrast, the performance-avoiding goal pattern is an "avoidance" form of self-regulation, because it involves an attempt to prevent a negative outcome (appearing incompetent). The performance-avoiding goal pattern tends to promote worry, self-criticism, and anxiety, making it difficult for people to concentrate fully on the task at hand (Elliot & McGregor, 1999). Furthermore, discomfort with the negative feelings that come with task engagement may prompt people to avoid the task, if not physically then mentally by "spacing out" (Elliot & Harackiewicz, 1996). In sum, we have proposed that

*Hypothesis 4a:* Mastery goals are positively related to mental focus.

*Hypothesis 4b:* Performance-approach goals are positively related to mental focus.

*Hypothesis 4c:* Performance-avoiding goals are negatively related to mental focus.

In turn, evidence indicates that mental focus predicts both enjoyment and work performance. For instance, theorists have argued that task involvement has a positive relationship with intrinsic motivation for the activity (Csikszentmihalyi, 1990; Elliot & Harackiewicz, 1996). In addition, research indicates that cognitive interference leads to performance decrements because people are distracted by off-task worry and thus do not have all their cognitive resources available for completion of the achievement task (Kanfer & Ackerman, 1996; Sarason, Pierce, & Sarason, 1996). Therefore, we propose that

*Hypothesis 5:* Mental focus is positively related to enjoyment.

*Hypothesis 6:* Mental focus is positively related to performance.

In addition to those relationships already proposed, we also expect to see a direct relationship between mastery goals and enjoyment. Individuals with mastery goals tend to enjoy developing skills and considerable evidence indicates that mastery goals promote absorption and enjoyment of challenging tasks (Dweck & Leggett, 1988; Elliot & Church, 1997). Therefore, we expect that mastery goals will predict enjoyment in an achievement situation beyond any specific mediating activities (e.g., mental focus) that take place.

*Hypothesis 7:* Mastery goals are positively related to enjoyment.

In sum, we examine the goal-striving process by testing a model of personality and self-regulation behavior that integrates self-determination theory and contemporary goal-based theories of performance. We expect that the effects of global personality traits (autonomy, control, and amotivated orientations) will predict domain-specific achievement goals (mastery, performance-approach, and performance-avoiding goal patterns). Achievement goal patterns should predict the level of self-selected goal level and mental focus, which in turn should predict performance and enjoyment. Our final hypothesis reflects our overall model:

*Hypothesis 8:* Personality characteristics (autonomy, control, and amotivated orientations) indirectly influence outcomes (performance and enjoyment) through achievement goal patterns, goal level, and mental focus.

### Method

#### *Procedure and Participants*

We collected data at five points during the semester from 284 undergraduate students enrolled in a required introductory management course at a large university in the Midwest. This course was entirely lecture based, with the final grade based on scores from three exams. Students received extra credit in exchange for participating in this study; we included only students from whom we obtained complete data. Of the 335 students



enrolled in the class, 331 completed the first survey. Of these initial respondents, 284 completed all four surveys and were included in the study. There were 120 women and 164 men. The sample was predominantly White (265 participants) with a smaller number of Blacks (9), Native Americans (3), Asians (2), and Latinos (4). In terms of year in college, there were 2 freshmen, 76 sophomores, 159 juniors, and 47 seniors.

Analyses were conducted to determine if any differences existed between the final sample and the 47 individuals who began the study but did not complete all four of the required surveys. Analyses indicated no significant differences between the two groups in terms of gender, race, year in college, grade goal, personality traits, achievement goals patterns, and Exam No. 1 scores. However, there were significant differences in Exam No. 2 scores, overall performance in the class, and grade point average (GPA) so that individuals who remained in the study had higher scores, suggesting they may have been more conscientious overall.

*Time 1.* The first data collection took place during the first week of class. Packets were distributed that contained consent forms and a survey that measured demographic characteristics, GPA, goal level, personality, and achievement goals. Participants were given 1 week to complete the packet.

*Time 2.* Data collection at Time 2 took place 1 week before the first midterm. Surveys were distributed in class and subsequently returned to the research coordinator 1 week later. At this time, participants rated their mental focus in studying for the upcoming exam.

*Time 3.* Data collection at Time 3 took place 1 week before the second midterm. Surveys were distributed in class and returned to the research coordinator 1 week later. Participants rated their mental focus in studying for the upcoming exam.

*Time 4.* Data collection at Time 4 took place the second to last week in the semester, and surveys were collected in class within a week (prior to the final exam). Participants rated their overall enjoyment of the class and granted permission for the researchers to obtain their final grade, which was collected after the end of the semester (Time 5).

## Measures

*Personality characteristics.* The General Causality Orientations Scale (GCOS; Deci & Ryan, 1985a) was used. This scale assesses the personality orientations in a global manner, meaning that the results should be applicable across life domains. The scale consists of 12 brief vignettes, in which the reader is asked to consider how he or she would respond to a specific situation. Three responses, on a 5-point Likert scale ranging from *not at all likely* (1) to *extremely likely* (5), are offered, and the reader rates how likely he or she would be to engage in each of the three responses. One response is autonomy oriented, one response is control oriented, and one response is impersonally oriented. The following is a sample item:

*"You have been offered a new position in a company where you have worked for some time. The first question that is likely to come to mind is:"*

*—What if I can't live up to the new responsibility? (amotivation oriented)*

*—Will I make more money at this position? (control oriented)*

*—I wonder if the new work will be interesting? (autonomy oriented)*

Responses are averaged across the 12 ratings for each subscale to create a subscale score. Higher subscale scores indicate that the person possesses more of that orientation. In this sample, coefficient alpha for each subscale was as follows: autonomy orientation = .77; control orientation = .60; and amotivated orientation = .73.

*Achievement goals.* We used the achievement goals measure developed by Elliot and Church (1997) for a similar academic setting. There were six items for each of the three subscales (mastery goal, performance-

approach goal, and performance-avoiding goal), with a 5-point Likert scale (1 = *strongly disagree* and 5 = *strongly agree*). An example mastery goal item is, "In a class like this, I prefer course material that really challenges me so I can learn new things." An example performance-approach goal item is, "I want to do well in this class to show my ability to my family, friends, advisors, or others." An example performance-avoiding goal item is, "My fear of performing poorly in this class is often what motivates me." Coefficient alpha for each of the subscales is as follows: mastery goal = .82; performance-approach goal = .86; and performance-avoiding goal = .75.

We conducted a confirmatory factor analysis to investigate whether the items loaded on the constructs designated by Elliot and Church (1997). Results supported the three-factor model. More specifically, the fit of the three-factor model was satisfactory,  $\chi^2(132, N = 280) = 344.34, p < .0001$  (GFI = .88, AGFI = .84, NNFI = .87, CFI = .89, RMSEA = .08), and was substantially better than the two-factor model (mastery and performance goals). Thus, we used the scales as described by Elliot and Church (1997).

*Goal level.* Students were asked to indicate their grade goal for the semester. Choices included "A" through "D or better," including "plus" and "minus" options (a total of 10 choices). Higher scores indicated a more difficult goal.

*Mental focus.* Six items tapped the degree to which students expected to be able to concentrate when studying for the upcoming exam. Students were asked to predict their level of focus because study activity measures were taken 1 week before the exam. Items include the following: When preparing for this test I expect that I will . . . "become easily absorbed in the study material," "have good concentration," "find my mind wandering to other things" (reverse scored), "feel distracted and find it hard to pay attention" (reverse scored), "have to work hard to keep my mind on-task" (reverse scored), and "have a difficult time focusing on the study material" (reverse scored). A 4-point Likert scale was used for responses, ranging from *I probably won't do this at all* (1) to *I probably will do this a lot* (4). The correlation for the mental focus scale for the Time 2 and Time 3 data collection periods was .68,  $p \leq .0001$ . To create an aggregate measure, items were summed and averaged across the Time 2 and Time 3 data collections ( $\alpha = .88$ ).

*Class performance.* Scores on each of the three tests were summed to create the total course score. The total possible points were 170.

*Class enjoyment.* We used an eight-item measure ( $\alpha = .91$ ) developed by Elliot and Church (1997) for a similar setting. A sample item is "I enjoyed this class very much." Items were rated on a 5-point Likert scale ranging from *strongly agree* (1) to *strongly disagree* (5).

*GPA.* GPA was used as a control variable, as it was expected to be strongly related to performance and to self-selected goal level.

## Results

Descriptive statistics and intercorrelations of variables used are given in Table 1. The basic pattern of correlations provides initial support for each of the proposed hypotheses. The autonomy orientation predicted the mastery goal pattern, the control orientation predicted the performance-approach and performance-avoiding goal patterns, and the amotivated orientation predicted the performance-avoiding goal pattern. The relationship between the performance-avoiding goal pattern and mental focus was negative, whereas the mastery and performance-approach goal patterns were positively related to mental focus. The performance-approach goal pattern is positively, and the performance-avoiding pattern is negatively, related to goal level. Mental focus is positively related to both enjoyment and performance, and goal level is positively related to performance. Each of these relationships is significant.

Table 1  
Means, Standard Deviations, and Correlations

| Variable                     | M      | SD    | 1     | 2     | 3      | 4     | 5     | 6      | 7     | 8     | 9     | 10    | 11 |
|------------------------------|--------|-------|-------|-------|--------|-------|-------|--------|-------|-------|-------|-------|----|
| 1. Autonomy orientation      | 4.12   | 0.52  | (.77) |       |        |       |       |        |       |       |       |       |    |
| 2. Control orientation       | 3.10   | 0.45  | .09   | (.60) |        |       |       |        |       |       |       |       |    |
| 3. Amotivated orientation    | 2.62   | 0.57  | -.04  | .26** | (.73)  |       |       |        |       |       |       |       |    |
| 4. Mastery goal              | 3.83   | 0.71  | .45** | -.01  | -.04   | (.82) |       |        |       |       |       |       |    |
| 5. Performance-approach goal | 3.32   | 0.84  | .08   | .19** | .08    | .07   | (.86) |        |       |       |       |       |    |
| 6. Performance-avoiding goal | 2.89   | 0.83  | -.09  | .22** | .46**  | -.10  | .06   | (.75)  |       |       |       |       |    |
| 7. Mental focus              | 2.63   | 0.54  | .11   | -.05  | -.34** | .23** | .14*  | -.11   | (.88) |       |       |       |    |
| 8. Enjoyment                 | 3.27   | 0.78  | .23** | .03   | -.12*  | .35** | -.01  | .24**  | .13*  | (.91) |       |       |    |
| 9. Performance               | 134.79 | 12.77 | .09   | -.15* | -.05   | .04   | .04   | -.22** | .13*  | .10   | —     |       |    |
| 10. Goal level               | 8.94   | 1.23  | .11   | -.09  | -.13*  | .04   | .18** | -.25** | -.09  | -.07  | .37** | —     |    |
| 11. GPA                      | 2.91   | 0.81  | .14*  | -.13* | .05    | .00   | .01   | -.13*  | -.08  | -.05  | .51** | .34** | —  |

Note.  $N = 280$ . The numbers in parentheses on the diagonal are coefficient alphas. GPA = grade point average.

\*  $p < .05$ . \*\*  $p < .01$ .

We used a manifest variable approach to test the model (see Figure 1). Our proposed model had a good overall fit to the data (see Table 2). Although the final chi-square was significant, the fit indices were all above .90 and the RMSEA was less than .08 (Loehlin, 1998). All of the path coefficients were significant in this model, meaning that all of our hypotheses were supported.

A central part of our argument is that global personality characteristics achieve their effects on outcomes via intervening processes. Given this argument, we felt it important to test the alternative possibility that personality has direct effects on the outcomes and thus we added six paths between the personality traits and outcomes to the model. The addition of these six paths did not result in a significant chi-square decrease (see Table 2), and none of the path coefficients for the additional links were significant. Therefore, this alternative model does not provide an improvement upon our proposed model.

In our second alternative model, we tested the possibility that the hierarchical model that we proposed was not accurate. That is, we have argued that the global personality traits predict the domain-specific individual difference patterns, which in turn predict further self-regulation and ultimately the outcomes. However, if another ordering of constructs reveals a model with an equally good fit, this result would detract from our hierarchical argument. Therefore, we tested a model in which we reversed the positions of the global personality traits and the achievement goals in the model. Specifically, we tested a model in which the mastery goal pattern predicted the autonomy orientation, the performance-approach goal pattern predicted the control orientation, and the performance-avoiding goal pattern predicted the performance-avoiding achievement goals. The rest of the paths were identical to the proposed model. As this alternative model is not nested with our proposed model, the chi-square difference test is not appropriate. However, a general inspection of the fit indices reveals that this alternative model does not improve the overall fit of the data (see Table 2). Further, the AIC (Akaike's information criterion) index for this alternative model is considerably higher (indicating worse fit) than that of the proposed model.

Our final model is illustrated in Figure 2 and the fit indices are in Table 2. In our final model we added one additional path, between the amotivated orientation and mental focus, that was suggested by the modification indices. Because this path is not inconsistent with our theory, we included this path in the final model. This relationship suggests that, in addition to the distraction caused by the performance-avoiding orientation, mental focus was also distracted by general, dispositionally related negative feelings and concerns. Although future research is needed to confirm the usefulness of this link, we added it in order to describe the current data in the most accurate manner possible.

## Discussion

The purpose of this study was to test a goal-striving model that investigates mechanisms through which personality traits influence performance and enjoyment of work. The results support a hierarchically organized framework in which general personality traits influence more domain-specific self-regulation behaviors and ultimately situation-specific outcomes. This model suggests that an awareness of individuals' general personality traits can help us to understand and predict the strategies that they will employ in

Table 2  
Fit Indices for Proposed and Alternative Models

| Model   | df | $\chi^2$ | GFI | AGFI | NNFI | CFI | RMSEA | AIC    |
|---|----|----------|-----|------|------|-----|-------|--------|
| Proposed  | 34 | 61.93**  | .96 | .93  | .91  | .94 | .05   | -6.07  |
| Alternative no. 1 (Direct paths between personality and outcomes)                       | 28 | 56.50**  | .97 | .92  | .88  | .94 | .06   | 0.50   |
| Alternative no. 2 (Changing hierarchical ordering of personality and achievement goals) | 34 | 107.03** | .94 | .88  | .75  | .85 | .09   | 39.03  |
| Final model   | 33 | 42.54    | .97 | .95  | .97  | .98 | .03   | -23.46 |

Note. GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; NNFI = nonnormed fit index; CFI = comparative fit index; RMSEA = root-mean-square error of approximation; AIC = Akaike's information criterion.

\*\*  $p < .01$ .

a specific achievement setting. All of our hypotheses were confirmed, and our final model also contained a negative path between the amotivated orientation and mental focus. A number of theoretical and practical implications follow from these results.

A key finding of this study is that global personality differences in self-determination predict situation-specific goal striving processes. In terms of the autonomy orientation, our results extend findings from Elliot and McGregor (2001) who found that degree of self-determination (an alternative measure of the autonomy orientation) positively predicted adoption of mastery goals among college students. It may be that individuals who are highly attuned to their own preferences attempt to frame the work that they must do in terms of how it may further their development, and thereby become more invested in the work process. If so, this finding

should be important in work settings, because those with a strong autonomy orientation may find a wider range of assignments desirable and interesting. Future research might examine the degree to which workers with a low autonomy orientation may be coached to identify the developmental benefits of work assignments, thus improving their investment and interest.

This model also brings attention to the potentially positive aspects of the control orientation. Previous theory and research examining this trait have focused on the negative effects it has on both work and educational performance. The control orientation has been seen as problematic because it is associated with feelings of performance pressure, sensitivity to extrinsic rewards, and decreased intrinsic interest (Deci & Ryan, 1985a, 1985b, 1987; Wong, 2000). The results of the present study extends such re-

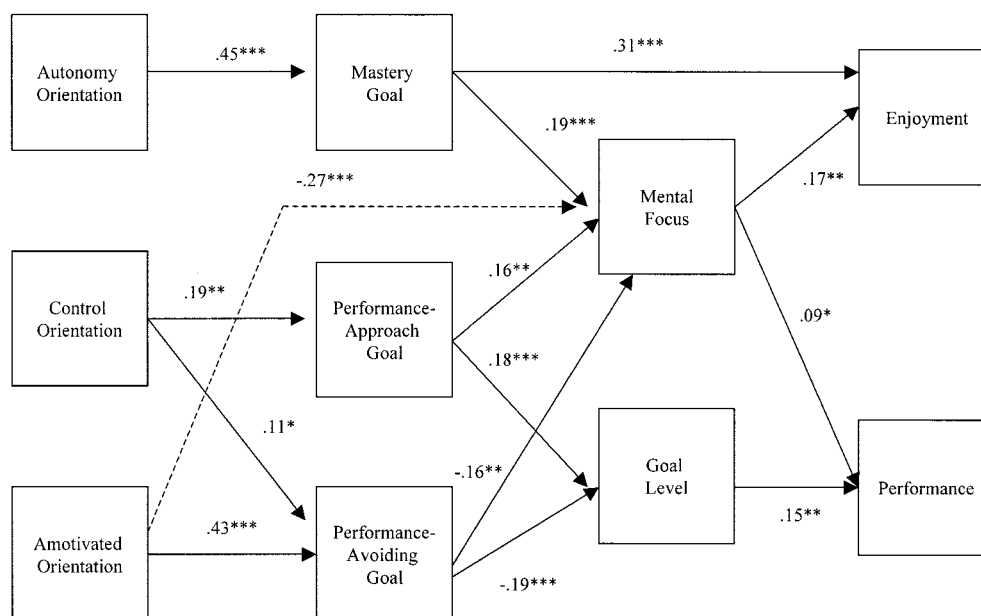


Figure 2. Final model of personality characteristics, goal orientation, mental focus, goal difficulty, and work outcomes. All statistics are standardized path coefficients, significant at  $p \leq .01$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

search by identifying a coherent self-regulation pattern that explains the problematic outcomes: the control orientation prompts a performance-avoiding goal pattern in achievement situations, with associated concerns about failure, avoidance of the work process, and difficulty concentrating while engaged in task activity. However, by looking at the control orientation in terms of the performance-approach pattern, it becomes evident that the control orientation may also have a positive side. It seems that being highly attuned to external expectations and standards is productive in that it helps to mobilize energy to display competence and to channel abilities into more difficult goals.

Being dispositionally insecure, negative, and anxious, as indicated by a high amotivated orientation, had a clear influence on the goal striving process. This finding may be relevant to the Big Five trait neuroticism, which has repeatedly been found to predict feelings of stress in the workplace (Tokar et al., 1998) and was recently identified as being a consistent (negative) predictor of work performance (Barrick, Mount, & Judge, 2001). High neuroticism includes a tendency to feel negative emotions, such as anxiety, sadness, and self-consciousness (Costa & McCrae, 1992). The amotivated orientation, which is a more specific, motivationally based disposition related to one's sense of autonomy and effectiveness, may be a component of the broad neuroticism construct, and help to explain the mechanisms by which neuroticism affects work outcomes—by promoting a failure orientation, lower goals, and disrupting concentration on work tasks. This negative self-regulation pattern may also be related to Carver, Lawrence, and Scheier's (1999) concept of the "feared self," which they refer to as "a set of qualities [a] person wants not to become but is concerned about possibly becoming" (p. 785). According to this theory, a person's efforts to avoid becoming their "feared self" influences self-regulatory activities across life domains. The present model may help to elaborate upon how such a process might manifest in achievement-related situations, as people attempt to avoid failure.

Mental focus played a particularly prominent role in the goal striving process emanating from the amotivated orientation. The mastery and performance-approach achievement goals likely facilitated focus by helping to create a positive frame of mind for the study period, allowing students to see the time as an opportunity to learn more and to display abilities. By contrast, the amotivated orientation and associated performance-avoiding focus may have made it difficult to focus on the study material because of intruding negative thoughts. This interpretation extends other research and theory on the topic. For instance, Elliot and McGregor (1999) found that performance-avoiding goals predicted test anxiety (more specifically, worry) among college students preparing for an exam. These authors indicated that this worry involved self-criticism and fear of the consequences of failure. Furthermore, Kuhl's (1994) concept of action-state orientation, an individual-difference variable influencing goal-striving (Diefendorff et al., 2000), includes the idea that progress on a task may be impeded when a person becomes preoccupied by thoughts about past or potential failure experiences (Diefendorff et al., 2000). The literature on cognitive interference (Kanfer & Ackerman, 1996; Sarason et al., 1996) also indicates that both worries about current performance and preoccupation with off-task concerns may disrupt concentration and performance as a person works on an achievement task. Future research should examine whether these kinds of

negative, intruding thoughts account for the prominent role of mental focus in determining goal striving outcomes.

More broadly, future research might also examine this model in other organizational settings and with various work tasks. For instance, this model might be tested within training programs. Individuals' standing on the autonomy, control, and amotivated orientations might give trainers important insight into how to structure training for different employees, as well as difficulties that may be encountered at different stages of the program. In particular, it would be useful to study whether pretraining instruction/discussion could successfully modify the outlook of amotivated individuals such that they are less inclined to adopt performance-avoiding goals in a specific situation, or to worry excessively while trying to learn the training task. The role of feedback in influencing changes in individuals' performance goals, goal orientation, and mental focus would also be a valuable focus of study.

There are several practical implications of these findings. Although personality traits tend to be stable in adulthood, leaders may be able to shape the self-regulation behaviors associated with them. Scholars indicate that achievement goals, in that it is a domain specific pattern, may be modified by the context (Dweck & Leggett, 1988). Studies that treated achievement goals as a situational variable and manipulated achievement goals conditions (Button, Mathieu, & Zajac, 1996; Steele-Johnson et al., 2000) underscore this point. Therefore, it may be possible, through coaching on the part of leaders, to influence achievement goals. For example, noting aspects of success, either verbally or through rewards, could reinforce a performance-approach orientation, by focusing the individual on positive aspects of the performance situation. By contrast, highlighting aspects of failure, or punishing poor performance, may bring about a performance-avoiding orientation by focusing attention on the potentially negative aspects of the performance situation. Emphasizing opportunities to develop skills and challenge oneself should promote a mastery orientation.

The thought patterns associated with the amotivated orientation and the performance-avoiding goal pattern may also be amenable to change. Cognitive theory (Alford & Beck, 1997; Ellis & Dryden, 1996) indicates that the nature of people's thoughts influences their outlook, their mood, and their behavior. Thought self-leadership training (Neck & Manz, 1992), which involves the application of cognitive principles to workplace behavior, has helped employees change their thought patterns and improve their performance (Neck & Manz, 1996). People with an amotivated orientation and performance-avoiding goal pattern may engage in negative self-talk that might be countered with specific training. Those with more deep-seated difficulties, particularly those with a strong amotivated orientation, may benefit from cognitive therapy through the organization's employee assistance program.

There are limitations of this study that should be acknowledged. First, the data were collected in an academic setting, which may impose certain limitations on the generalizability to other work settings. This model should be tested in additional work settings in the future, in order to determine how different contexts impact the proposed relationships. However, following the example of other scholars (Chen et al., 2000; Phillips & Gully, 1997) we believe that the university classroom is a naturalistic setting that has meaningful implications for the adult participants, and so is a useful first



step in examining self-regulation of work behavior. An additional generalizability issue relates to the fact that those participants that remained in the study had higher exam scores than those participants that dropped out of the study, meaning that this model may pertain to higher-achieving individuals. However, we believe that people with lower achievement records would also benefit from the change strategies outlined above. Furthermore, although we measured the personality variables, mental focus, goal level, and the outcome variables at different time periods, we still cannot be certain of the causal ordering of the variables in the model. Our measure of control orientation had a relatively low coefficient alpha (.60) and thus may have limited our ability to detect significant results. Therefore, it might be useful to develop a more reliable measure of control orientation, in particular given its importance in goal striving processes. Finally, the measure of mental focus asked students to predict how well they expected to be able to focus while studying for the upcoming test. It would also be useful to attempt to assess mental focus during study efforts.

In conclusion, these results support a model of personality and self-regulation that should inform future research on goal striving in the workplace. Self-determination theory offers three traits that should be particularly relevant for understanding employee motivation in the workplace, as one of the key challenges facing a supervisor is dealing with issues of autonomy and control of employees. Furthermore, achievement goal theory provided the means to explain the specific processes associated with each of these global traits. This model integrates several lines of research into a hierarchically ordered framework, which extends the literature on both self-determination theory and achievement goal theory. We hope that researchers will continue to examine personality differences in the goal-striving process in organizational settings.

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